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(54) Title: ISOLATED NUCLEIC ACID MOLECULE ENCODING A NOVEL CENTROMERE-ASSOCIATED MOTOR PROTEIN, AND USES THEREOF

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(57) Abstract: An isolated nucleic acid is provided which encodes a novel centromere-associated motor protein, HsCENP-E. Also provided are the purified polypeptide encoded by the nucleic acid sequence, and antibodies immunologically specific for the polypeptide. These biological molecules are useful as markers of cellular proliferation, particularly for the identification of cells in the G2 and M phases of the cell cycle. Methods are provided for using the nucleic acid, protein and antibodies for assessing cellular proliferation in biological fluids and tissue samples, and for detecting the presence of autoantibodies to the protein.

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